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Kory Floyd , Jon A. Hess , Lisa A. Miczo , Kelby K. Halone , Alan C.
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Affection exchange theory speaks to the benefits that affectionate communication elicits, not only when it is received but also when it is communicated to others. Previous research has provided evidence for the individual and relational benefits of having a high trait affection level, yet these benefits may partially be accounted for by the affectionate behavior one elicits from others by being affectionate in the first place. We addressed the validity of this alternative hypothesis in this project, first by re-analyzing data in which we compared correlations between trait affection level and various benefits with the same correlations after controlling for received affection. Next, in three studies involving a total sample of 1,144 people, we further investigated the benefits of expressed affection, both on its own and when received affection is covaried out. Results indicated that affection expressed to others is associated with numerous individual and relational benefits, including increased happiness and self esteem, decreased fear of intimacy and susceptibility to depression, and higher relationship satisfaction. Many of these effects are attenuated—and some are intensified—when affection received from others is held constant.

Keywords: Affection; Mental Health; Affection Exchange Theory

Introduction

Affection is commonly thought of as being one of the most fundamental of human needs (Rotter, Chance, & Phares, 1972; Schutz, 1958, 1966). Affectionate expressions—those behaviors through which feelings of affection are communicated—are likewise vital to the well being of individuals and their significant relationships. They contribute to the formation (Owen, 1987) and maintenance (Bell & Healey, 1992) of romantic relationships and often serve as a gauge by which relational development is monitored (see Booth-Butterfield & Trotta, 1994; King & Christensen, 1983). Affectionate behaviors are similarly important in platonic friendships, families, and even acquaintanceships (see Floyd, in press, for review). Given the breadth of relational experience in which affectionate communication is common, it is little wonder that it plays such an important role in individual well being.

The individual and relational benefits of receiving affection have been well documented. Affection contributes to mental health (Downs & Javidi, 1990), physical well being (Komisaruk & Whipple, 1998), and academic performance (Steward & Lupfer, 1987). It mitigates depression (Oliver, Raftery, Reeb, & Delaney, 1993) and loneliness (Downs & Javidi, 1990). Moreover, it is associated with a range of relational benefits, including closeness, love, and relationship satisfaction (see, e.g., Floyd & Morman, 1997, 1998, 2000).

By contrast, the benefits of *expressing* affection have begun to receive scholarly attention only of late. In a recent study, Floyd (2002) investigated the extent to which one's trait level of affectionate communication toward others was associated with a number of individual- and relational-level benefits. In that study, Floyd had research assistants recruit subsamples of highly affectionate and nonaffectionate adults, who were asked to complete a battery of assessments regarding their mental, physical, and emotional well-being, their marital/relational status, and their satisfaction with their romantic relationship (if any). A manipulation check, conducted with a new instrument called the Trait Affection Scale—Given (TAS-G), verified that the two subsamples differed significantly in their trait affection levels. Mean comparisons indicated that the affectionate group was advantaged over the nonaffectionate group on every variable measured. Specifically, compared to nonaffectionate communicators, affectionate communicators were happier, had higher self-esteem, were in better mental health, were less stressed and less likely to be suffering from depression, were more likely to be married or in a long-term romantic relationship, and among those who were in such relationships, were more satisfied in those relationships. Not surprisingly, the Floyd study also found that people in the affectionate group reported receiving more affection from others than did people in the nonaffectionate group, using a second new scale, the Trait Affection Scale—Received (TAS-R).

The Floyd study was grounded in affection exchange theory (AET: Floyd, 2001; Floyd & Morman, 2001; Floyd & Morr, 2003; Floyd & Ray, 2003). AET is a

neo-Darwinian theory that conceives of affectionate communication as an adaptation that contributes to human viability and fertility, both through general social pathways such as the creation of solidarity and intimacy, and through specific physiological pathways that initiate neurological reward feedback, boosting the immune system (see Floyd, in press). Importantly, however, AET predicts that people are benefited not only by receiving affectionate communication from others but also by giving it, and that these effects, though not completely orthogonal, should be somewhat independent. In other words, there should be benefits to giving affection that are independent of those to receiving affection, and vice versa.

Although they verified a number of benefits associated with expressing affection, the analyses presented in the Floyd (2002) paper did not adequately account for the possibility that the benefits of giving affection were—at least, to a substantial degree—merely a byproduct of the benefits of having received affection in return. This alternative explanation would be supported by Gouldner's (1960) moral norm of reciprocity, which acknowledges the strong social expectation that humans have for reciprocity when they share their resources with others. If Gouldner's reciprocity principle leads one to expect that affectionate expressions are typically reciprocated (a prediction supported in the Floyd (2002) study by a 0.74 correlation between affection given and affection received), and if receiving affectionate expressions is associated with benefits on its own (which a host of studies has concluded; see Floyd, in press, for review), then it logically follows that the benefits of communicating affection *could* simply be those associated with the affectionate expressions one receives in return. If this were the case, it would fail to support AET's prediction that expressing affection elicits benefits that are independent of those that accompany received affection. Such a prediction would gain greater support, however, were it to be shown that expressed affection is associated with individual- and relational-level benefits even when the amount of received affection were held constant.

The goal of the present paper is to test for the benefits of expressed affection and to ascertain the extent to which they are independent from those associated with received affection. To accomplish this goal, we begin by re-analyzing the data presented in Floyd (2002), to determine whether the benefits associated with expressed affection are dependent on trait levels of received affection. We then present new data from three separate studies in which the TAS-G and TAS-R have been used. In each case, we examine associations between expressed affection and a host of individual- and relational-level benefits, both with zero-order correlations and then with partial correlations that control for received affection.

On the basis of AET, we advance the following two predictions:

H1: Expressed affectionate communication is (a) directly associated with individual-level well-being, including happiness, self-esteem, and general mental health; (b) inversely associated with individual-level problems such as stress, depression, and maladaptive relational attachment patterns; (c) predictive of long-term romantic relationships; and (d) directly related to relational satisfaction, for those in long-term romantic relationships.

H2: The associations with expressed affection are maintained to a statistically significant degree when received affection is controlled for.

Re-Analyses of the Floyd (2002) Data

Method

Participants ($N = 109$) were 45 male and 64 female adults with an average age of 26.71 years ($SD = 10.78$). Full demographic details of the sample appear in Floyd (2002).

Procedure

Undergraduate research assistants were given pairs of questionnaires and asked to recruit "one of the most affectionate people you know" and "one of the least affectionate people you know" to complete them. The questionnaires had identification numbers preceded by either "M" or "L" to indicate whether they were to be given to a most affectionate or least affectionate person but were otherwise identical. The questionnaires presented a battery of measures of individual mental and physical well being and relationship status and satisfaction. Participants who agreed to participate completed their questionnaires individually and returned them anonymously to the lead author. A manipulation check, which consisted of comparing the high and low affection groups to each other on their TAS-G scores, revealed that the high affection group indicated significantly higher scores for trait affection given than did the low affection group.

Measures

Although details of the measures used appear in Floyd (2002), they are repeated here because many of the same measures were used in the three original studies reported subsequently. *Trait affection given* was assessed with the TAS-G (Floyd, 2002), a ten-item self-report measure of the extent to which one is, by nature, an affectionate person. Items included "I am always telling my loved ones how much I care about them," and "Anyone who knows me well would say that I'm pretty affectionate." *Trait affection received* was assessed with the TAS-R (Floyd, 2002), a six-item measure that addressed participants' tendencies to receive expressions of affection from others (e.g., "I get quite a bit of affection from others," "People are always telling me that they like me, love me, or care about me"). *Relationship satisfaction* (for those in

romantic relationships) was measured with the seven-item Relationship Assessment Scale developed by Hendrick (1988). Items included "How well does your partner meet your needs?" and "How good is your relationship compared to most?" We measured three relational attachment styles that we characterized as maladaptive. *Fear of intimacy*, *viewing relationships as being of secondary importance*, and *discomfort with closeness* were measured with six-, five-, and five-item scales, respectively, that were developed by Guerrero (1994; see also Feeney, Noller, & Hanrahan, 1994). Fear of intimacy items included "I would like to trust others, but I have a hard time doing so;" relationships as secondary items included "Achieving things is much more important to me than building relationships;" discomfort with closeness items included "I feel uncomfortable when people get close to me." *Social activity* was assessed with an 11-item scale developed by Floyd (2002). Items included "My calendar is always filled with social activities," and "I would characterize myself as a 'homebody'" (reverse scored).

Participants also reported on their susceptibility to *depression*, using the Iowa Short Form (Kohout, Berkman, Evans, & Cornoni-Huntley, 1993) of the Center for Epidemiological Studies Depression (CES-D) scale (Radloff, 1977), an 11-item measure that asked participants how frequently they experienced symptoms such as loss of appetite, changes in sleep patterns, or self-dislike. They reported on their *general mental health*, with the 12-item General Health Questionnaire developed by Banks (Banks, 1983; Banks et al., 1980). The items assessed the level of each participant's mental and emotional well being. They reported on their level of *stress,* using the Perceived Stress Scale developed by Cohen, Kamarck, and Mermelstein (1983). Items asked participants how often, in the previous month, they had experienced stress, nervousness, anger, difficulty coping with irritants, and difficulty dealing with changes, among other indicators. Participants indicated their level of *self esteem* using the ten-item Self Esteem Scale developed by Rosenberg (1965). Items included "On the whole, I am satisfied with myself." Finally, participants reported on their *happiness*, using the 29-item Oxford Happiness Inventory (Argyle, Martin, & Crossland, 1989). Items included "I feel on top of the world," and "I am constantly in a state of joy and elation."

Each of the scales above utilized a seven-point scale in which higher values indicated a higher level of the variable. Internal reliability estimates appear in Floyd (2002).

Results of Re-Analyses

The results reported in Floyd (2002), which consisted primarily of mean comparisons between the two criterion groups on the individual- and relational-level measures, revealed that people in the high affection condition were advantaged, relative to people in the low affection condition, on every measure. That is, highly affectionate people reported being happier, having higher self-esteem, being in better mental health, experiencing less stress and depression, being more likely to be in a long-term

romantic relationship (and, among those who were in such relationships, being more satisfied with those relationships), being more comfortable with interpersonal closeness, being more socially active, and having less fear of interpersonal intimacy. As noted above, however, these analyses did not control for the amount of affection received by people in both groups.

To re-analyze these data, we elected to dispense with the mean comparisons and look instead at the associations between TAS-G scores and the various measures of individual and relational well being, both on their own and after having controlled for received affection (TAS-R scores). Although the criterion groups operationally allowed for mean comparisons, our decision to use correlation analyses instead was motivated both by the ability to take full advantage of the variance of the TAS-G scores and to make these re-analyses comparable with the analyses to be presented subsequently in the three original studies (none of which used criterion groups).

To address the first hypothesis, we entered all of the measures into one-tailed zero-order Pearson correlations with participants' trait expressed affection (TAS-G) scores. The analyses employed an effectwise Bonferroni-corrected alpha of 0.01 to mitigate alpha error inflation. Because relationship status is a nominal variable, and thus not suitable for correlation analyses, we dichotomized the variable to categorize participants either as being in a long-term romantic relationship (married, engaged, living with romantic partner, having a long-term romantic partner) or as not being in such a relationship, and then used dummy coding to examine its relationship to expressed affection.

As expected (given the Floyd, 2002, results), trait expressed affection demonstrated the hypothesized relationships with all measures of individual and relational well being. Specifically, direct relationships between trait affection given and self esteem, social activity, happiness, mental health, likelihood of being in a romantic relationship, and, for those in romantic relationships, relationship satisfaction, and inverse relationships with depression, stress, discomfort with closeness, fear of intimacy, and the perception of relationships as being of secondary importance. The correlation coefficients appear in Table 1. To determine whether these associations are influenced by trait affection received, however, we re-ran all of the analyses using one-tailed partial correlations, controlling for trait affection received. A Bonferroni-corrected alpha of 0.01 was again employed. The partial correlations appear in Table 1. Decreases in the magnitudes of the correlation coefficients, with received affection partialled out, would indicate that a variable's association with expressed affection was, to some extent, due to a spurious correlation with received affection. By contrast, increases in the magnitudes of the coefficients would suggest that a variable's relationship with expressed affection was being suppressed by received affection.

Although the correlation coefficients decreased somewhat in magnitude, all of the associations (with two exceptions) remained statistically significant even after received affection was held constant. The direct correlation with social activity and the inverse correlation with depression became nonsignificant, according to the

Table 1 Bivariate and Partial Correlations Between Trait Affection Given and Individual and Relational Benefits from Floyd (2002) Dataset[1]

Variable	Bivariate correlation with affection given[2]	Correlation controlling for affection received
Depression	−0.26**	−0.15
Self esteem	0.40**	0.25*
Stress	−0.39**	−0.31**
Discomfort with closeness	−0.67**	−0.50**
Fear of intimacy	−0.53**	−0.37**
Happiness	0.53**	0.37**
Social activity	0.38**	0.14
Mental health	0.42**	0.20*
Relationships as secondary	−0.50**	−0.20*
Romantic relationship	0.25**	0.19*
Relational satisfaction[3]	0.36**	0.25*

Notes. [1]$df = 217$. [2]Probability estimates are one-tailed. [3]$df = 129$. *$p < 0.01$; **$p < 0.001$.

Bonferroni-corrected critical alpha, when received affection was partialled out (although both correlations achieved significance at an uncorrected level).

Discussion

The re-analyses of the Floyd (2002) data indicate that although there is evidence of some shared variance between the criterion in terms of their effects on the measures of individual and well being, trait expressed affection appears to claim a portion of variance unaccounted for by trait received affection. Specifically, despite a reduction in the magnitude of the correlations between expressed affection and the study variables, nearly all of the significant associations manifested between expressed affection and the study variables maintained their significance even after we partialled out received affection. These results suggest a dual pathway through which expressing affection elicits individual and relational benefits—partially on its own and partially by eliciting affectionate expressions in response. Although the benefits of receiving affectionate communication have been well documented for some time, these findings provide important support to the notion, advanced by AET, that expressing affection also engenders benefits that are, to a significant degree, independent of those associated with received affection.

Subsequently, we detail three replications of these analyses. Each case differs slightly from the others in the methods employed (one was a survey and the others were laboratory experiments) and in the measures included; these differences are clearly noted.

Study One

Method

Participants ($N = 1,032$) were undergraduate communication students from various regions of the USA. Most ($n = 667$) were female, whereas 315 were male and 50 did not report their sex. Ages ranged from 18 to 55 years, with a mean of 21 years ($SD = 4.0$). The largest percentage (65.6%) of participants were Caucasian, whereas 21.9% were Hispanic, 3.8% were Asian, 3.4% were African-American, 1.7% were Native American, and 3.9% were of other ethnic origins.[1] At the time of the study, most participants (88.7%) were single, whereas 5.0% were married, 1.9% was divorced, 0.1% was widowed, and 4.3% did not report on their marital status. The greatest percentage (39.6%) of participants lived in the Midwestern USA, whereas 29.9% lived in the Southwest, 13.5% lived in the Southeast, 6.9% lived in the Northeast, 5.5% lived in the Northwest, and 4.6% did not report on their geographic location.

Procedure

Participants were recruited from undergraduate communication courses at eight universities located throughout the United States for a study of "personality and communication style."[2] Those who agreed to participate were asked to complete a seven-page questionnaire that was made available to them online. The first page on the web site contained the informed consent form; participants were notified that completing and submitting the questionnaire would constitute informed consent. After filling in their answers on the questionnaire, participants submitted their responses electronically and then completed extra credit information (student number, course number, instructor name) on a separate web page. Of those participants who read the consent form and moved on to the first page of the questionnaire, 93% completed and submitted the questionnaire. Participants were given extra course credit in exchange for taking part. The data and the extra credit information were compiled by technicians for the researchers in separate files; as such, the data file contained no information by which the identity associated with any individual case could be ascertained.

Measures

Trait affection given, trait affection received, relationship satisfaction (for those in romantic relationships), fear of intimacy, discomfort with closeness, and social activity were assessed with same measures used in Floyd (2002). In addition, we added three new measures assessing personality dimensions. *Psychoticism*, *neuroticism*, and *extraversion* were measured with Eysenck's (1986, 1990) dimensions of personality scales. In line with *H1*, we anticipated that trait affection given would manifest a direct association with extraversion and inverse associations with psychoticism and neuroticism. Coefficient alphas for all measures appear in Table 2.

Table 2 Internal Reliability Estimates for Self-Report Measures from Three New Studies[1]

Variable	Study one	Study two	Study three
Trait affection given	0.94	0.91	0.79
Trait affection received	0.93	0.87	0.89
Social activity	0.87	0.83	—
Self esteem	—	0.88	0.81
Discomfort with closeness	0.85	0.82	0.83
Fear of intimacy	0.82	0.80	0.82
Relationship satisfaction	0.99	—	0.90/0.89[2]
Depression	—	0.86	0.68
Stress	—	0.89	0.84
Mental health	—	0.81	0.83
Happiness	—	0.90	0.87
Psychoticism	0.71	0.66	0.53
Extraversion	0.82	0.74	0.74
Neuroticism	0.84	0.86	0.74
Liking	—	—	0.89/0.872
Love	—	—	0.84/0.852

Note. [1]Internal reliability estimates are based on Cronbach's alpha. [2]Pairs of alphas from study three for relationship satisfaction, liking, and love are from measures taken during laboratory data collection and six-month follow-up, respectively.

Results

Scale properties

We first examined the factor structure of the TAS-G. We began by subjecting the items to principal-components factor analysis with Varimax rotation to assess their dimensionality (KMO test of sampling adequacy $=0.95$; Bartlett's test of sphericity $\chi^2 (45) = 7,773.38$, $p < 0.001$). The factor analysis, which was instructed to extract all factors with eigenvalues exceeding 1.0, extracted only one factor, which accounted for 66.54% of the variance. Examination of the scree plot supported the one-factor solution.[3] Coefficient alpha for the scale, which was calculated as the aggregate of the ten original items, was 0.94; Guttman split-half reliability estimate was 0.93.

Hypotheses

To ascertain whether expressed affection was associated with individual and relational characteristics, and to determine whether such associations were independent of the influence of affection received, we conducted one-tailed bivariate Pearson correlations between affection given and the hypothesized variables and then conducted one-tailed partial correlations between affection and the hypothesized variables while controlling for the effects of affection received. In each case, we employed an effectwise Bonferroni-corrected alpha of 0.014 to mitigate alpha error inflation. The correlation coefficients appear in Table 3.

Table 3 Bivariate and Partial Correlations between Trait Affection Given and Individual and Relational Benefits from Study One[1]

Variable	Bivariate correlation with affection given[2]	Correlation controlling for affection received
Social activity	0.48*	0.09*
Discomfort with closeness	−0.14*	−0.25*
Fear of intimacy	−0.05	−0.18*
Relational satisfaction[3]	0.29*	0.15*
Psychoticism	−0.56*	−0.29*
Extraversion	0.61*	0.21*
Neuroticism	−0.22*	−0.08*

Notes. [1]$df = 1{,}027$. [2]Probability estimates are one-tailed. [3]$df = 568$. *$p < 0.014$.

In line with *H1*, trait affection given was directly related to social activity and (for those in romantic relationships) relational satisfaction, and inversely related to discomfort with closeness. In addition, trait affection given was directly related to extraversion and inversely related to psychoticism and neuroticism. The hypothesized inverse relationship with fear of intimacy was nonsignificant.

When we partialled out received affection, the correlations between trait affection given and social activity, discomfort with closeness, relational satisfaction, psychoticism, extraversion, and neuroticism remained significant at the Bonferroni-corrected level of confidence, although most were decreased in magnitude. These data support *H2*. Moreover, the formerly nonsignificant correlation between expressed affection and fear of intimacy was significant when received affection was controlled for; thus, like discomfort with closeness, this one increased in magnitude when received affection was covaried out.

Discussion

In this study, we added measures of personality characteristics to see whether trait affection given would be significantly associated with psychoticism, extraversion, and/or neuroticism (which are commonly referred to in personality literature as the "big three" characteristics). In line with *H1*, we predicted that expressed affection would be directly related to extraversion and inversely related to psychoticism and neuroticism. This prediction was supported, with large effect sizes emerging for psychoticism and extraversion. All three correlations remained significant after received affection was covaried out, although all were reduced in magnitude. The same results emerged for social activity, discomfort with closeness, and relational satisfaction, further supporting the results from the re-analysis of the Floyd (2002) data.

By contrast, the association between expressed affection and fear of intimacy increased in magnitude when received affection was held constant, with the correlation coefficient more than tripling in size. This result suggests that received

affection was suppressing the relationship between fear of intimacy and expressed affection. Given that this finding contradicts the results identified in the re-analysis of the Floyd (2002) data, we will defer speculation as to its meaning until we ascertain whether the finding replicates in the subsequent studies.

In the second study, we replicated these correlations using questionnaire data provided by participants taking part in a laboratory experiment. Study two replicates all of the correlations included in the first study, with the exception of relational satisfaction (the experiment did not focus on relational communication). In addition, measures of mental health, depression, and happiness (used in the Floyd, 2002 study) were again added.

Study Two

Method

Participants ($N = 64$) were equal numbers of male and female undergraduate communication students from a large university in the Southwestern USA who were recruited for a "study of social interaction and conversational behavior." Participants ranged in age from 18 to 33 years ($M = 23$ years, $SD = 2.9$). Most (76.6%) were Caucasian, whereas 10.9% were Hispanic, 4.7% were Black/African-American, 4.7% were Asian, 1.6% were Native American, and 1.6% were of other ethnic origins. Participants were paid US$15 each in exchange for their participation.

Procedure

Participants took part in a laboratory procedure that is not relevant to the current paper (for details, see Floyd & Mikkelson, 2003).[4] Prior to their laboratory appointment, however, they completed questionnaires that contained the same measures of their trait affection given and received, discomfort with closeness, fear of intimacy, psychoticism, extraversion, neuroticism, social activity, depression, general mental health, stress, and happiness as were used in Floyd (2002) and in study one. Internal reliability estimates appear in Table 2.

Results

As in the first study, we conducted one-tailed bivariate Pearson correlations between affection given and the hypothesized variables and then conducted one-tailed partial correlations between affection and the hypothesized variables while controlling for the effects of affection received. In each case, we employed an effectwise Bonferroni-corrected alpha of 0.006 to mitigate alpha error inflation. The correlation coefficients appear in Table 4.

In line with *H1*, trait affection given was directly associated with social activity, mental health, and happiness, and was inversely associated with discomfort with closeness and fear of intimacy. Additionally, trait affection given was directly

Table 4 Bivariate and Partial Correlations between Trait Affection Given and Individual and Relational Benefits from Study Two[1]

Variable	Bivariate correlation with affection given[2]	Correlation controlling for affection received
Social activity	0.34***	−0.10
Discomfort with closeness	−0.73***	−0.50***
Fear of intimacy	−0.52***	−0.28*
Depression	−0.29**	0.01
Mental health	0.34***	0.05
Happiness	0.37***	0.11
Psychoticism	−0.17	−0.08
Extraversion	0.31**	0.16
Neuroticism	−0.23*	−0.05

Notes. [1]$df = 62$. [2]Probability estimates are one-tailed. *$p < 0.05$; **$p < 0.01$; ***$p < 0.006$.

associated with extraversion and inversely associated with depression and neuroticism, but only to uncorrected levels of statistical significance. The bivariate correlation with psychoticism was nonsignificant.

With the effect of received affection covaried out, the correlations with fear of intimacy and discomfort with closeness remained significant, although both were reduced in magnitude (notably, however, the partial correlation with discomfort with closeness still represented a large effect size). In contrast to *H2*, however, the partial correlations with the remaining variables were nonsignificant.

Discussion

The first hypothesis was supported for social activity, mental health, happiness, discomfort with closeness, and fear of intimacy. Because they did not achieve significance at the Bonferroni-corrected level, the associations with depression, extraversion, and neuroticism must be interpreted with greater caution.

In contrast to the first study and the re-analyses of the Floyd (2002) data, however, *H2* received support only for fear of intimacy and discomfort with closeness. The remaining correlations with expressed affection were nonsigificant when the effect of received affection was covaried out.

The findings for *H2* were surprising, given the results identified in the first study and in the re-analyses of the Floyd (2002) data. Given that the obtained correlations were merely nonsignificant—rather than significant in a direction opposite that hypothesized—we must treat them as non-findings and defer speculation as to their meaning until we can consider them in relation to the other tests of *H2* produced by this series of replications.

The third original study replicates the correlations conducted in the first two studies and adds two elements. First, liking and love for one's relational partner are assessed in addition to relationship satisfaction. Second, these three relational

variables are assessed longitudinally, once during the laboratory session and again six months later. In line with *H1*, we predict direct relationships between trait affection given and liking, love, and relational satisfaction at both times they were measured. One other important change in the third study is that both romantic and nonromantic relationships were assessed for satisfaction, liking, and love.

Study Three

Method

Participants ($N = 48$) were equal numbers of men and women residing in the Southwestern United States who were recruited for a "study of communication in opposite-sex relationships." Participants ranged in age from 19 to 48 years ($M = 25$ years, $SD = 5.5$). Most (87.0%) were Caucasian, whereas 10.9% were Hispanic, 4.3% were Black/African-American, 4.3% were Asian, 4.3% were Native American, and 13.0% were of other ethnic origins.

Procedure

Half of the participants were recruited from upper-division communication courses at a large university in the Southwestern USA. Each participant was asked to identify one opposite-sex friend ($n = 11$ dyads), sibling ($n = 3$), or romantic partner ($n = 10$) with whom to take part in the study. Those selecting a friend were asked to choose a platonic friend of the opposite sex who was neither a relative nor a former, current, or potential romantic partner. Those selecting a sibling were asked to choose one full-biological sibling of the opposite sex who was not the participant's twin. Those selecting a romantic partner were asked to choose the person of the opposite sex with whom they had a serious, ongoing romantic relationship that was defined as such by both people in the relationship.

Participants took part in a laboratory procedure that is not relevant to the current paper (for details, see Floyd & Tusing, 2002). Prior to their laboratory appointment, however, they completed questionnaires that contained the same measures of their trait affection given and received, discomfort with closeness, fear of intimacy, psychoticism, extraversion, neuroticism, depression, general mental health, self esteem, stress, happiness, and relationship satisfaction as were used in the previous studies. In addition, participants reported on their *liking* and *love* for their designated relational partner in the study, using the liking and love scales developed by Rubin (1970). Liking items include "This person is one of the most likeable people I know;" love items include "If I could never be with this person, I would feel miserable." Coefficient alphas for each measure appear in Table 2. Six months after taking part in the study, participants again completed measures of their liking, love, and relational satisfaction.

Results

We again computed one-tailed bivariate correlations between trait affection given and the individual and relational characteristics measured, and then computed partial correlations after having controlled for trait affection received. Because of the reduction in statistical power associated with the small sample size, we did not apply a Bonferroni correction to mitigate alpha error, as we had done in the first two studies. The correlation coefficients appear in Table 5.

In line with *H1*, trait affection given was directly associated with self esteem, happiness, love at time 1 and time 2, and liking and relational satisfaction at time 2, and inversely associated with depression, stress, discomfort with closeness, and fear of intimacy. Notable were the large effect sizes associated with self esteem, discomfort with closeness, stress, happiness, and love and relational satisfaction at time 2. The correlations with extraversion, neuroticism, and liking and relational satisfaction at time 1 were nonsignificant, although each coefficient was in the hypothesized direction.

With the effect of trait affection received covaried out, the correlations with psychoticism and fear of intimacy became nonsignificant, but significant relationships emerged with extraversion and neuroticism. The significant associations with self esteem, stress, depression, and happiness increased in magnitude, by an average of 0.23. Contrariwise, the association with discomfort with closeness decreased in magnitude by 0.16. Liking and relational satisfaction at time 1 were still nonsigificantly correlated with expressed affection even after received affection was controlled for.

Table 5 Bivariate and Partial Correlations between Trait Affection Given and Individual and Relational Benefits from Study Three[1]

Variable	Bivariate correlation with affection given[2]	Correlation controlling for affection received
Depression	−0.48*	−0.84*
Self-esteem	0.54*	0.84*
Stress	−0.56*	−0.75*
Discomfort with closeness	−0.70*	−0.54*
Fear of intimacy	−0.71*	−0.28
Happiness	0.65*	0.80*
Psychoticism	−0.47*	−0.05
Extraversion	0.17	0.51*
Neuroticism	−0.33	−0.43*
Relational satisfaction	0.21	0.10
Liking	0.34	0.23
Love	0.40*	0.61*
Relational satisfaction T2[3]	0.59*	0.41*
Liking T2	0.49*	0.36*
Love T2	0.50*	0.39*

Notes. [1]$df = 23$. [2]Probability estimates are one-tailed. [3]Time 2 administrations of scales, from six-month follow-up. *$p < 0.05$.

Discussion

The first hypothesis was supported except for extraversion, neuroticism, and liking and relational satisfaction at time 1, which were nonsignificantly associated with expressed affection. The second hypothesis was supported except for fear of intimacy and psychoticism, whose associations with expressed affection became nonsignificant when received affection was controlled for, and liking and relational satisfaction at time 1, which continued to manifest nonsigificant associations with expressed affection.

In line with study two and the re-analyses of the Floyd (2002) data, the correlation coefficient between expressed affection and fear of intimacy decreased in magnitude when received affection was controlled for. These replications suggest that the increase in the magnitude of the coefficient (when moving from the bivariate to the partial correlation) identified in study one may be anomalous. However, unlike in the previous studies, the magnitudes of the correlations between expressed affection and depression, self esteem, stress, happiness, extraversion, neuroticism, and love at time 1 all increased when the effect of received affection was partialled out. This suggests that the effect of received affection is not consistent across samples; rather, it sometimes magnifies the relationship between expressed affection and a given characteristic and, at other times, it suppresses it. We provide further discussion on this point subsequently.

General Discussion

Considered collectively, the present analyses suggest that being affectionate engenders individual- and relational-level benefits both directly and by eliciting affectionate communication in return. Although the benefits of receiving affection have been known for some time, the important contribution of the present analyses is the discovery that, although received affection can account for some of the variance in the benefits associated with expressed affection, it cannot account for all of it. Consequently, expressing affection benefits the communicator on its own, a conclusion that could not be ascertained from the analyses as published in Floyd (2002).

The notion that affectionate communication is of benefit not only when it is received but also when it is given is directly supportive of affection exchange theory, which posits that expressing affection contributes to the superordinate goals of human viability and fertility. Other theories have indirectly espoused this prediction, as well. Taylor's (2002) tend-and-befriend theory, for instance, posits that behaving in nurturant, relationship-maintaining ways is a primary means of dissipating the physical and emotional effects of stress, particularly for women. Importantly, Taylor's theory (like AET) suggests that behaving in nurturant ways (such as by expressing affection) benefits the actor not only through the behaviors that such a course of action elicits but also via internal reward pathways, such as reduced blood pressure

and increased secretion of dopamine and oxytocin. Both of these theories would suggest, therefore, that expressing affection may be an effective technique for the reduction of stress (and, consequently, for the mitigation of the physical, mental, and emotional effects of stress). The present paper's demonstration that expressed affection is associated with numerous benefits (including being inversely associated with stress), even when received affection is controlled for, may pave the way for future experimentation on the stress-reducing effects of communicating affection.

Evidence supporting AET is also important because of the contribution it can offer to positive psychology. For most of the twentieth century, psychologists devoted their effort to studying mental illnesses. However, over recent years prominent psychologists have started to admit that this focus was incomplete. This "disease model" of psychology does not help us understand how people can flourish; a new model of psychology is needed to understand what leads to happiness, well being, and a life worth living. Some scholars (e.g., Seligman, 2002) predict that this will become an important focus of scholarship in the twenty-first century. This project shows that sharing positive affect has an impact in well being, and thus it warrants further attention. Reis and Gable (2003) acknowledge that affection may be an important element in flourishing, but giving affection to others has otherwise escaped attention in this newly emerging area of study.

As we noted above, the effect of received affection on the relationship between expressed affection and the various characteristics we measured was not always consistent. In the re-analyses of the Floyd (2002) data and in studies one and two, we found that received affection magnified the relationship between expressed affection and the study variables; hence, when we controlled for it, the associations between expressed affection and the other variables were generally reduced in magnitude (except for the correlation with fear of intimacy in study one). In the third study, however, we found that received affection was instead suppressing the relationship between expressed affection and the study variables; hence, when we controlled for it, the associations between expressed affection and many of the study variables increased in magnitude. Because received affection acted as a control variable in the present studies, any explanations for the pattern of its influence (or lack thereof) are necessarily speculative. However, we believe the inconsistencies in the effects of received affection warrant two methodological conclusions. First, it was essential for us to demonstrate that, in most cases, expressed affection is associated with individual- and relational-level benefits that are independent of the influence of received affection—regardless of what that influence is—if we are to claim that communicating affection is beneficial (as AET posits). Second, we believe the inconsistencies in the effects of received affection underscore the need for replication. Had we looked at any one of the studies presented herein in isolation, we may have drawn conclusions about the effects of received affection that were idiosyncratic to that particular sample. Only through replication can we ascertain the patterns—or lack thereof—in the influence of a control variable like received affection. It is also worth noting that, because study one had such a larger sample size than Floyd (2002)

or studies two and three, we would expect it to generate more robust findings that are less susceptible to error. Thus, we regard study one as comprising the strongest test of our predictions; however, it is important that the other samples replicated those results.

Particular strengths and weaknesses of the studies presented herein deserve mention. The overall sample of 1,253 (including the Floyd 2002 study) was fairly diverse geographically, having been drawn from nearly every part of the USA. Although the age range was somewhat wide (18 to 55 years), the average age (24 years) was only slightly higher than that of most undergraduate students. Participants represented a range of ethnic backgrounds, although the majority was Caucasian. The replication of the analyses across the studies presented in this paper helped mitigate the shortcomings associated with any particular sample. The instruments used in these studies were all self-report measures, and this rightly raises concern about social desirability bias. Essential to the long-term development of the TAS-G and TAS-R will be additional validation with behavioral measures, such as coded affectionate behavior during interactions or unobtrusive naturalistic observation. Although social desirability is an important concern, it must be remembered that it is by no means unique to self-report measures. Indeed, any form of measurement in which participants are aware that they are providing data for a study, and can exert control over those data, is susceptible to the social desirability bias.

In conclusion, we are encouraged by the evidence that, in most cases, communicating affection elicits benefits to the individual, and to his or her relationships, that are independent of the affection he or she receives in return. This finding, which could not be ascertained solely by the analyses presented in Floyd (2002), will lay the foundation for future experimental research on the beneficial effects of affectionate communication.

Notes

[1]   Ethnicity percentages sum to slightly more than 100 because some participants reported belonging to more than one ethnic group.
[2]   The participating universities were Arizona State University, University of Missouri—Columbia, University of Tennessee—Knoxville, University of Texas—El Paso, University of Washington, Western Illinois University, LaSalle University, and Kean University.
[3]   Factor loadings are available from the first author by request.
[4]   In this and study three, we indicate that the laboratory procedures from the experiments are not relevant to the current analyses because the data being analyzed in this paper were provided by participants prior to their taking part in the laboratory procedures.

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